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TEST REPORT

Application No.:	KSCR2503000513AT
FCC ID:	2AC8UA2440
IC:	21806-A2440
Applicant:	Anhui Huami Information Technology Co., Ltd.
Address of Applicant:	7/F, Building B2, Huami Global Innovation Center, No. 900, Wangjiang West Road, High-tech Zone, Hefei City, China (Anhui) Pilot Free Trade Zone(230088)
Manufacturer:	Anhui Huami Information Technology Co., Ltd.
Address of Manufacturer:	7/F, Building B2, Huami Global Innovation Center, No. 900, Wangjiang West Road, High-tech Zone, Hefei City, China (Anhui) Pilot Free Trade Zone(230088)
Equipment Under Test (EUT):	
EUT Name:	Smart Watch
Model No.:	A2440
Trade Mark:	AMAZFIT
Standard(s) :	47 CFR Part 15, Subpart C 15.247
	RSS-247 Issue 3, August 2023
	RSS-Gen Issue 5 Amendment 2 (February 2021)
Date of Receipt:	2025-03-21
Date of Test:	2025-04-07 to 2025-04-14
Date of Issue:	2025-04-16
Test Result:	Pass*

* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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	Revision Record				
Version	Description	Date	Remark		
00	Original	2025-04-16	/		

Authorized for issue by:		
Tested By	Damon zhou Damon_Zhou/Project Engineer	
Approved By	Terry Hon	
	Terry Hou /Reviewer	



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2 Test Summary

Radio Spectrum Technical Requirement					
Item	FCC Requirement	IC Requirement	Method	Result	
Antenna Requirement	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	RSS-Gen Clause 6.8	N/A	Pass	
N/A: Not applicable					

Radio Spectrum Matt	Radio Spectrum Matter Part					
ltem	FCC Requirement	IC Requirement	Method	Result		
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247a(2)	RSS-247 Clause 5.2(a)	ANSI C63.10 (2013) Section 11.8.1	Pass		
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247(b)(3)	RSS-247 Clause 5.4(d)	ANSI C63.10 (2013) Section 11.9.1	Pass		
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247(e)	RSS-247 Clause 5.2(b)	ANSI C63.10 (2013) Section 11.10.2	Pass		
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247(d)	RSS-247 Clause 5.5	ANSI C63.10 (2013) Section 11.13.3.2	Pass		
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247(d)	RSS-247 Clause 5.5	ANSI C63.10 (2013) Section 11.11	Pass		
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.10.5	Pass		
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.4,6.5,6.6	Pass		
99% Bandwidth	-	RSS-Gen Section 6.7	ANSI C63.10 Section 6.9.3	Pass		



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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3.87V by Rechargeable Li-ion Battery
	Battery model: PL292132
	Rated Capacity:260mAh /1.01Wh
	Nominal Voltage:3.87V
	Limit Charge:4.45V
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	Metal Antenna
Antenna Gain:	-6.11dBi (Provided by the manufacturer)
SN:	244095E2P46087
Firmware Version:	2.1.0.1

4.2 Power level setting using in test:

Channel	BLE	BLE
	1M	2M
0	Default	Default
19	Default	Default
39	Default	Default

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	Lenovo	/	/
DC Power Supply	Agilent	/	/



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4.4 Measurement Uncertainty

N					
No.	Item	Measurement Uncertainty			
1	Radio Frequency	8.4 x 10 ⁻⁸			
2	Timeout	2s			
3	Duty Cycle	0.37%			
4	Occupied Bandwidth	3%			
5	RF Conducted Power	0.6dB			
6	RF Power Density	2.9dB			
7	Conducted Spurious Emissions	0.75dB			
0	RE Dedicted Device	5.2dB (Below 1GHz)			
8	RF Radiated Power	5.9dB (Above 1GHz)			
		4.2dB (Below 30MHz)			
0		4.5dB (30MHz-1GHz)			
9	Radiated Spurious Emission Test	5.1dB (1GHz-18GHz)			
		5.4dB (Above 18GHz)			
10	Temperature Test	1°C			
11	Humidity Test	3%			
12	Supply Voltages	1.5%			
13	Time	3%			
Note: approx	The measurement uncertainty represents imately the 95% confidence level using a coverage				



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4.5 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China. Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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5 Equipment List

ltem	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
RF Con	ducted Test					
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/01/2024	07/31/2025
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/01/2024	07/31/2025
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	01/15/2025	01/14/2026
4	Signal Generator	R&S	SMBV100B	KSEM032	02/19/2025	02/18/2026
5	Signal Generator	R&S	SMW200A	KSEM020-1	08/02/2024	08/01/2025
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/01/2024	07/31/2025
7	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/01/2024	07/31/2025
8	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	02/19/2025	02/18/2026
9	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/13/2024	08/12/2025
10	Switcher	TST	FY562	KUS2001M001-4	01/15/2025	01/14/2026
11	AC Power Source	EXTECH	6605	KS301178	N.C.R	N.C.R
12	DC Power Supply	Aglient	E3632A	KS301180	N.C.R	N.C.R
13	Conducted Test Cable	Thermax	RF01-RF04	CZ301111- CZ301120	01/14/2025	01/13/2026
14	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KSES104904	09/02/2024	09/01/2025
15	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	02/26/2025	02/25/2026
16	Software	BST	TST-PASS	/	NCR	NCR
RF Rad	liated Test					
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/06/2024	08/05/2025
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	02/18/2025	02/17/2026
3	Signal Generator	Agilent	E8257C	KS301066	08/06/2024	08/05/2025
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	03/01/2025	02/28/2027
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	03/23/2024	03/22/2026
8	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/07/2024	01/06/2026
9	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/15/2025	01/14/2026
10	Amplifier(18~40GHz)	PANSHAN TECHNOLOGY	LNA180400G40	KSEM038	08/12/2024	08/11/2025
11	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/23/2024	08/22/2025
12	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	02/26/2025	02/25/2026
13	Software	Faratronic	EZ_EMC-v 3A1	/	NCR	NCR
14	Software	ESE	E3_V 6.111221a	/	NCR	NCR



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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is metal antenna and no consideration of replacement. The best case gain of the antenna is -6.11dBi.

Antenna location: Refer to internal photo.



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Radio Spectrum Matter Test Results 7

7.1 Radiated Emissions which fall in the restricted bands

47 CFR Part 15, Subpart C 15.205 & 15.209 Test Requirement Test Method: ANSI C63.10 (2013) Section 6.10.5 Measurement Distance: 3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.1.1 E.U.T. Operation

Operating Environment: Temperature: 23.3 °C

Humidity: 45.2 % RH

Atmospheric Pressure: 1010 mbar

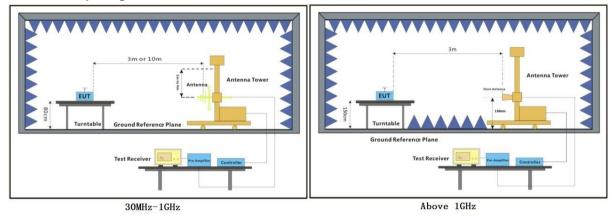
7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.



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7.1.3 Test Setup Diagram





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7.1.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

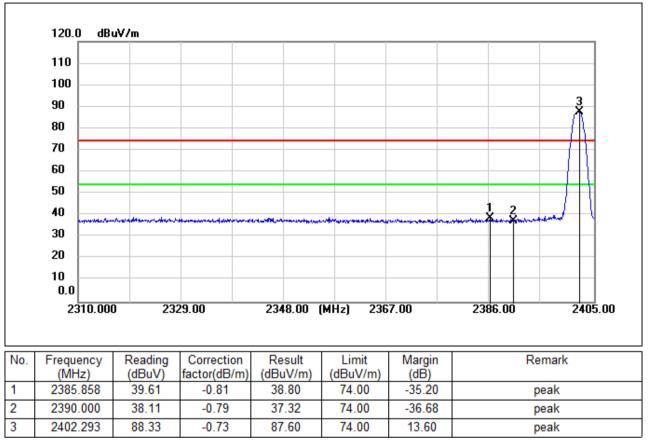
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Remark 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 4:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is \geq 1/T (Duty cycle<98%) or 10Hz (Duty cycle \geq 98%) for Average detection (AV) at frequency above 1GHz.



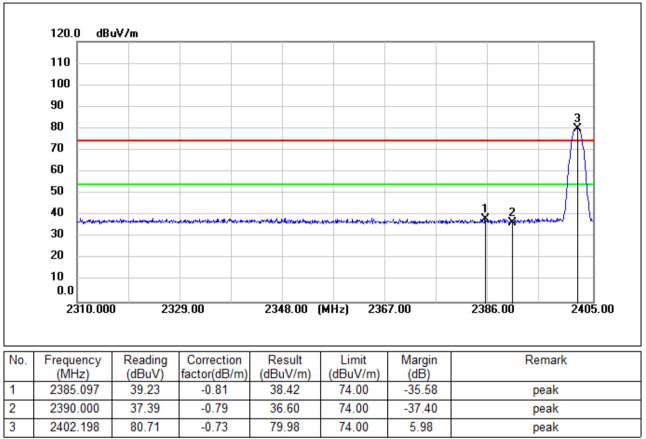
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Test Mode: 02; Polarity: Horizontal; Modulation:GFSK; Channel:Low



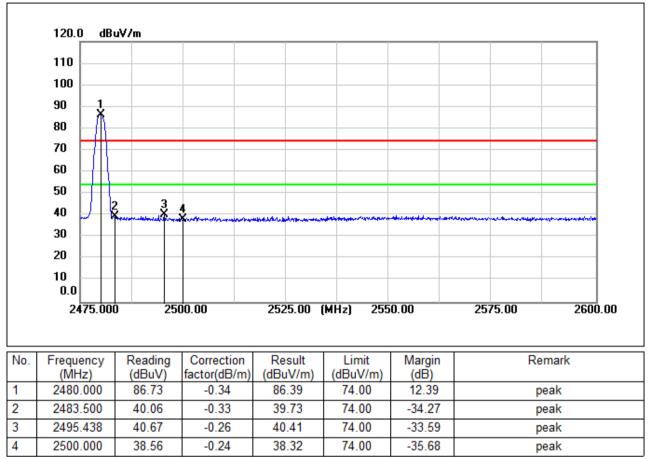
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Test Mode: 02; Polarity: Vertical; Modulation:GFSK; Channel:Low



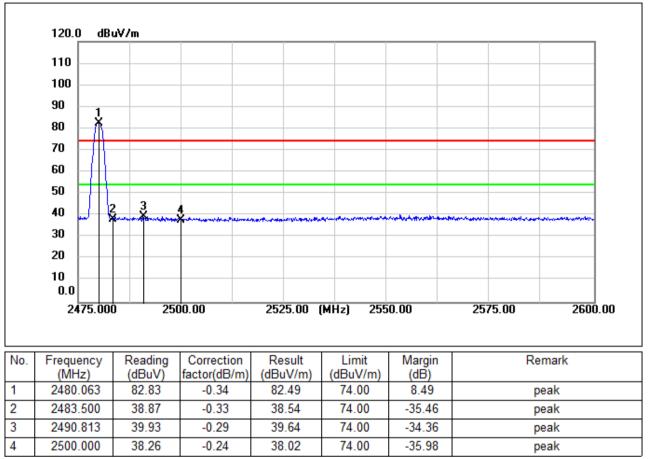
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Test Mode: 02; Polarity: Horizontal; Modulation:GFSK; Channel:High



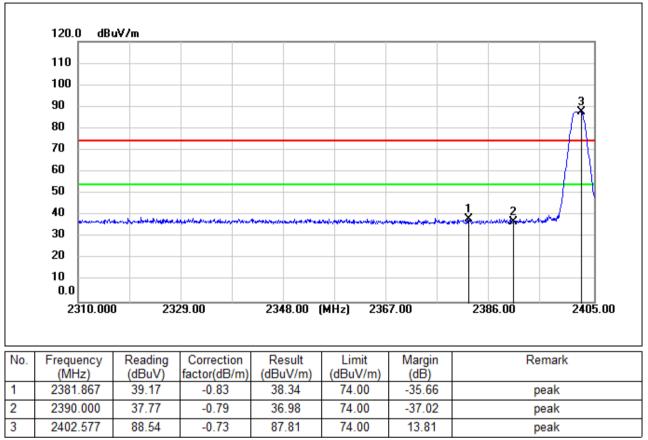
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Test Mode: 02; Polarity: Vertical; Modulation:GFSK; Channel:High



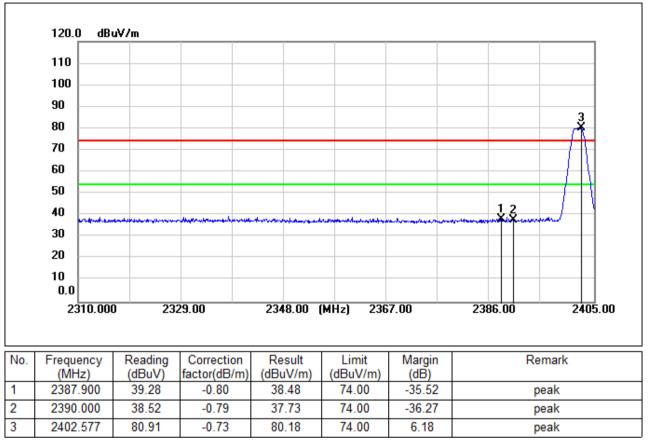
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Test Mode: 03; Polarity: Horizontal; Modulation:GFSK; Channel:Low



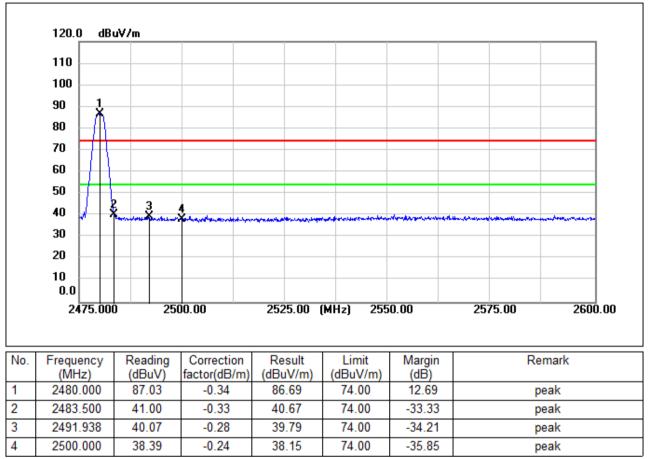
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Test Mode: 03; Polarity: Vertical; Modulation:GFSK; Channel:Low



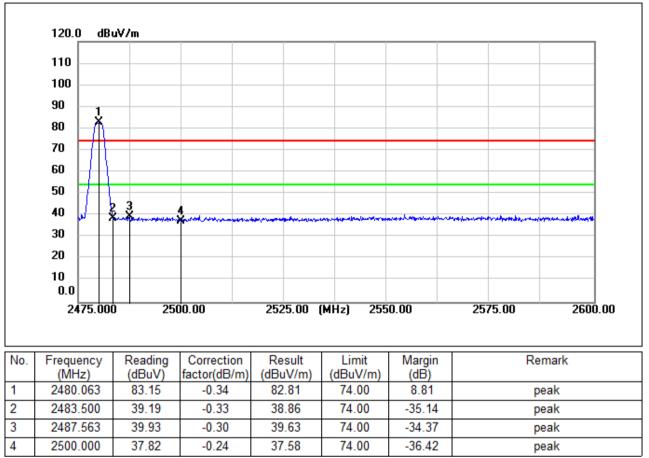
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Test Mode: 03; Polarity: Horizontal; Modulation:GFSK; Channel:High



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Test Mode: 03; Polarity: Vertical; Modulation:GFSK; Channel:High



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7.2 Radiated Spurious Emissions Below 1GHz

Test Requirement47 CFR Part 15, Subpart C 15.205 & 15.209Test Method:ANSI C63.10 (2013) Section 6.4,6.5Measurement Distance:3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

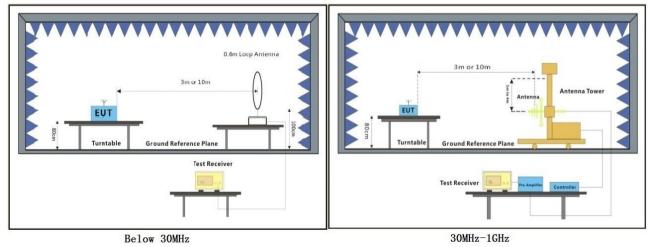
7.2.1 E.U.T. Operation

Operating Environment:Temperature:23.3 °CHumidity:45.2 % RHAtmospheric Pressure:1010mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.2.3 Test Setup Diagram





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7.2.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

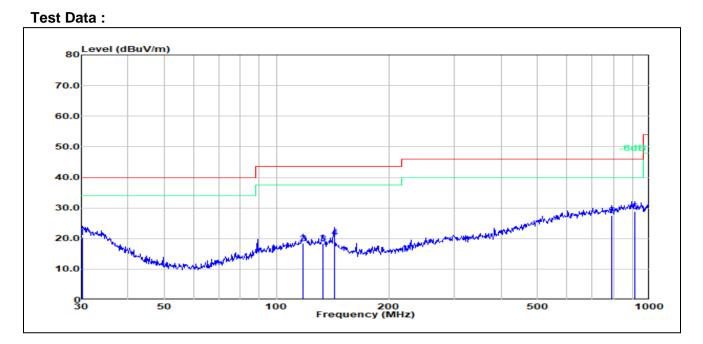
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.



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Test Mode: 02; Polarity: Horizontal



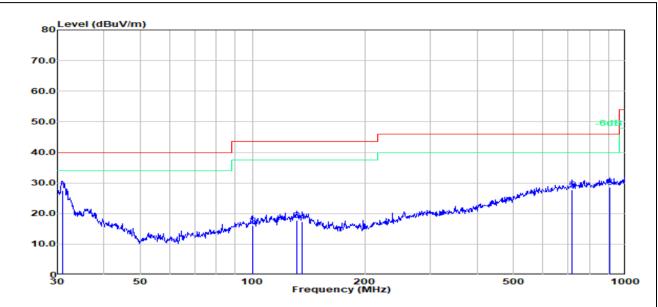
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	30.1050	0.97	19.34	20.31	40.00	-19.69	100	335	QP
2	117.7730	4.12	14.32	18.44	43.50	-25.06	200	294	QP
3	133.1510	4.07	14.26	18.33	43.50	-25.17	200	120	QP
4	142.8240	6.61	13.72	20.33	43.50	-23.17	100	255	QP
5	793.3960	3.02	24.49	27.51	46.00	-18.49	200	4	QP
6	912.8620	3.27	25.64	28.91	46.00	-17.09	100	247	QP



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Test Mode: 02; Polarity: Vertical

Test Data :



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	31.0706	8.95	18.56	27.51	40.00	-12.49	100	174	QP
2	99.8777	3.26	12.87	16.13	43.50	-27.37	100	360	QP
3	131.2965	3.07	14.65	17.72	43.50	-25.78	100	235	QP
4	135.5062	3.17	14.22	17.39	43.50	-26.11	100	168	QP
5	719.1995	3.62	24.21	27.83	46.00	-18.17	100	360	QP
6	909.6666	2.81	25.71	28.52	46.00	-17.48	100	289	QP



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7.3 Radiated Spurious Emissions Above 1GHz

Test Requirement47 CFR Part 15, Subpart C 15.205 & 15.209Test Method:ANSI C63.10 (2013) Section 6.6Measurement Distance:3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)		
Above 1000	500	3		

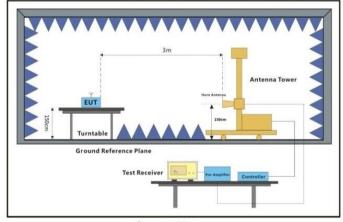
7.3.1 E.U.T. Operation

Operating Enviror	nment:					
Temperature:	23.3 °C	Humidity:	45.2 % RH	Atmospheric Pressure:	1010	mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.3.3 Test Setup Diagram



Above 1GHz



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7.3.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

5:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\ge 1/T$ (Duty cycle<98%) or 10Hz (Duty cycle \ge 98%) for Average detection (AV) at frequency above 1GHz.



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Test Mode: 02; Polarity: Horizontal; Modulation:GFSK; Channel:Low



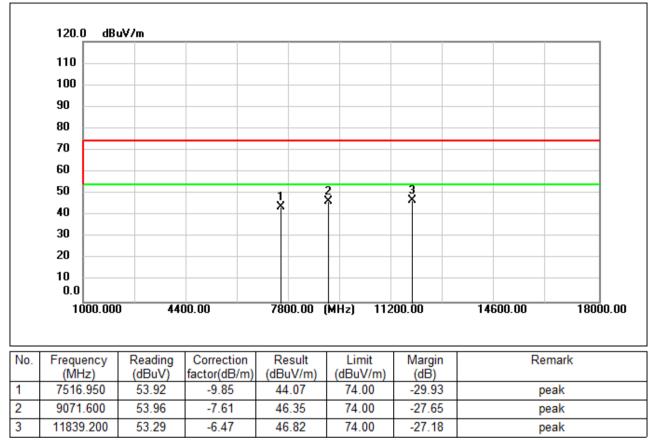
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Test Mode: 02; Polarity: Vertical; Modulation:GFSK; Channel:Low



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Test Mode: 02; Polarity: Horizontal; Modulation:GFSK; Channel:middle



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Test Mode: 02; Polarity: Vertical; Modulation:GFSK; Channel:middle



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Test Mode: 02; Polarity: Horizontal; Modulation:GFSK; Channel:High



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Test Mode: 02; Polarity: Vertical; Modulation:GFSK; Channel:High



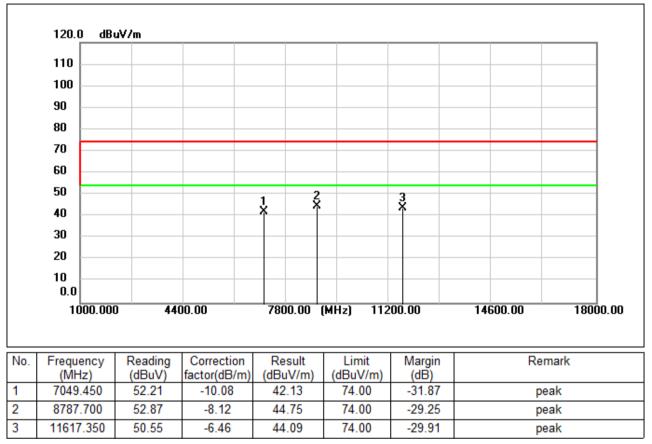
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Test Mode: 03; Polarity: Horizontal; Modulation:GFSK; Channel:Low



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Test Mode: 03; Polarity: Vertical; Modulation:GFSK; Channel:Low



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Test Mode: 03; Polarity: Horizontal; Modulation:GFSK; Channel:middle



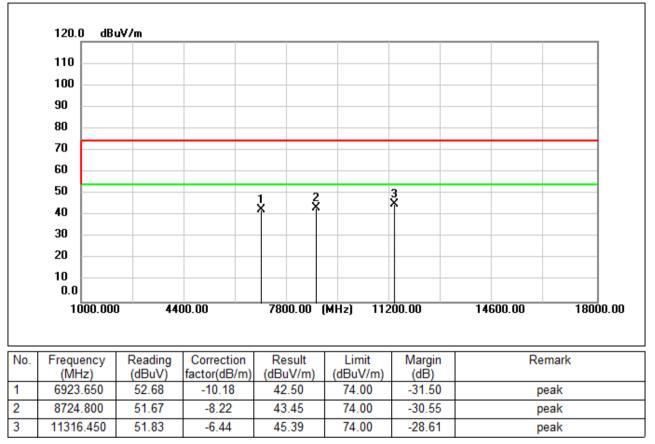
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Test Mode: 03; Polarity: Vertical; Modulation:GFSK; Channel:middle



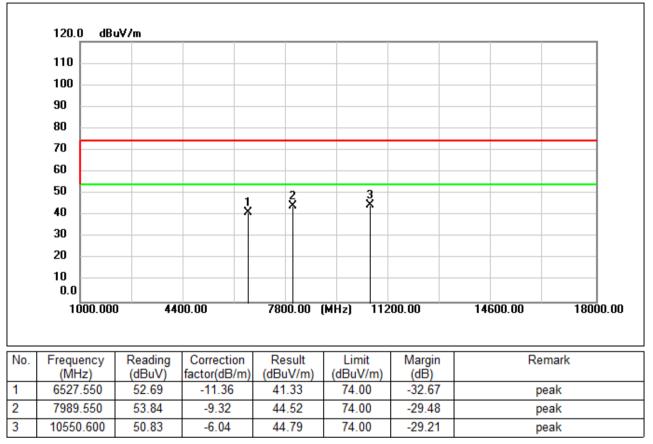
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Test Mode: 03; Polarity: Horizontal; Modulation:GFSK; Channel:High



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Test Mode: 03; Polarity: Vertical; Modulation:GFSK; Channel:High



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7.4 Conducted Peak Output Power

Test Requirement	47 CFR Part 15, Subpart C 15.247(b)(3)
Test Method:	ANSI C63.10 (2013) Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
	1 for ≥75 non-overlapping hopping channels
2400-2483.5	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

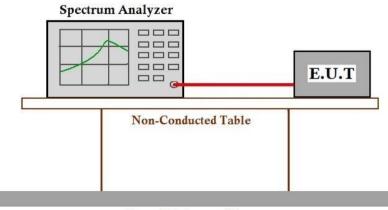
7.4.1 E.U.T. Operation

Operating Enviro	onment:			
Temperature:	22.8 °C	Humidity:	51.9 % RH	Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.4.3 Test Setup Diagram



Ground Reference Plane



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7.4.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.



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7.5 Minimum 6dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.247a(2)
Test Method:	ANSI C63.10 (2013) Section 11.8.1

Limit:

≥500 kHz

7.5.1 E.U.T. Operation

Operating Enviror	nment:					
Temperature:	22.8 °C	Humidity:	51.9 % RH	Atmospheric Pressure:	1010	mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.5.3 Measurement Procedure and Data



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7.6 Power Spectrum Density

Test Requirement	47 CFR Part 15, Subpart C 15.247(e)
Test Method:	ANSI C63.10 (2013) Section 11.10.2

Limit:

≤8dBm in any 3 kHz band during any time interval of continuous transmission

7.6.1 E.U.T. Operation

Operating Enviror	nment:					
Temperature:	22.8 °C	Humidity:	51.9 % RH	Atmospheric Pressure:	1010	mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.6.3 Measurement Procedure and Data



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7.7 Conducted Band Edges Measurement

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.13.3.2

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

7.7.1 E.U.T. Operation

Operating Enviror	nment:					
Temperature:	22.8 °C	Humidity:	51.9 % RH	Atmospheric Pressure:	1010	mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.7.3 Measurement Procedure and Data



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7.8 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.11

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

7.8.1 E.U.T. Operation

Operating Environment:Temperature:22.8 °CHumidity:51.9 % RHAtmospheric Pressure:1010

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.8.3 Measurement Procedure and Data



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7.9 99% Bandwidth

Test Requirement	RSS-Gen Section 6.7
Test Method:	ANSI C63.10 (2013) Section 6.9.3

7.9.1 E.U.T. Operation

Operating Environment:Temperature:22.8 °CHumidity:51.9 % RHAtmospheric Pressure:1010

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	03	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.9.3 Measurement Procedure and Data



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8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2503000513AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for KSCR2503000513AT



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10 Appendix

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

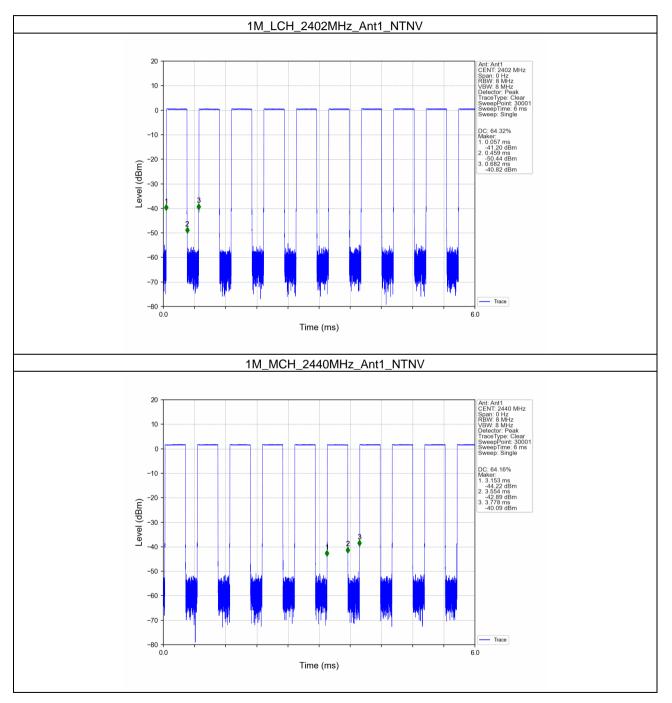
	Ant1								
Mode	ТХ Туре	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)		
		2402	0.402	0.625	64.32	1.92	0.00		
1M	1M SISO	2440	0.401	0.625	64.16	1.93	0.02		
		2480	0.401	0.625	64.16	1.93	0.05		
		2402	0.217	0.625	34.72	4.59	0.00		
2M	SISO	2440	0.216	0.625	34.56	4.61	0.00		
		2480	0.217	0.625	34.72	4.59	0.08		



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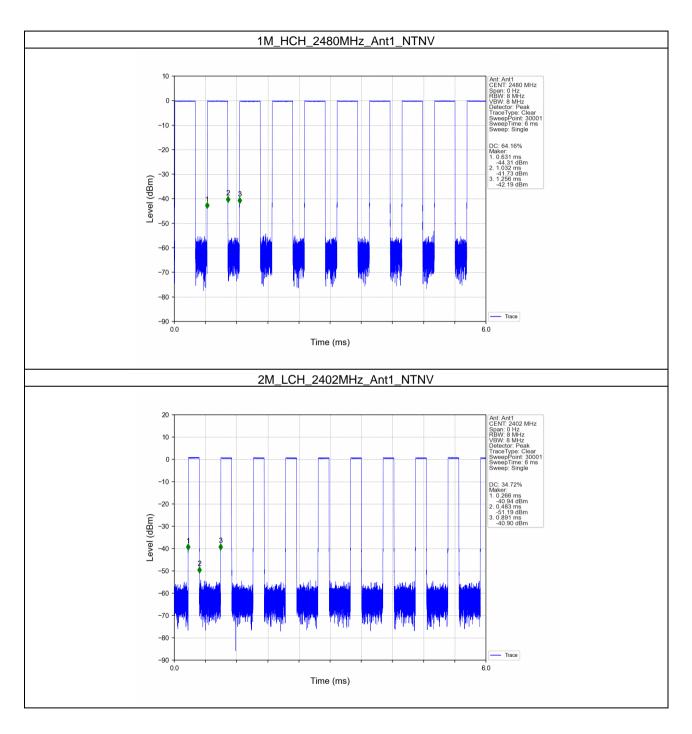
1.2 Test Graph

1.2.1 Ant1



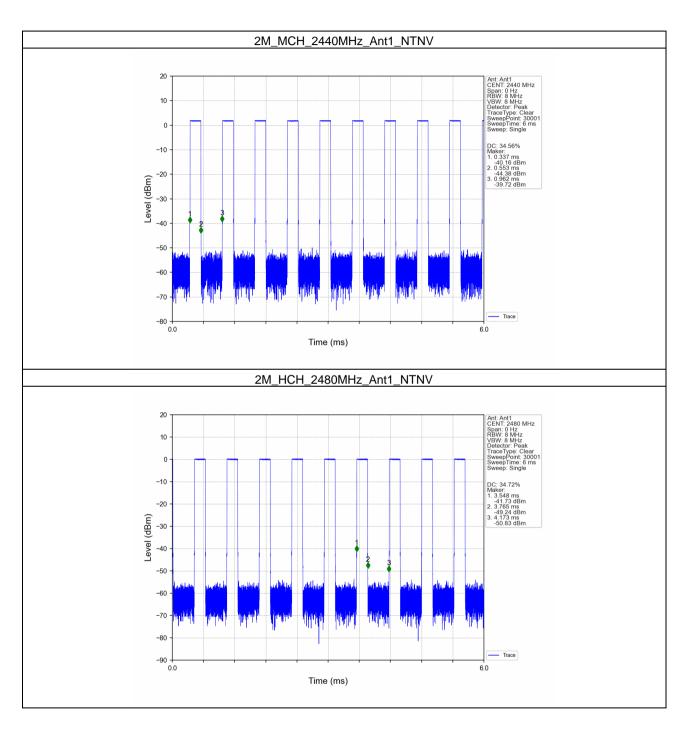


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2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mada	ТХ	Frequency		99% Occupied B) (and at	
Mode	Туре	(MHz)	ANT	Result	Limit	Verdict
		2402	1	1.038	/	Pass
1M	SISO	2440	1	1.028	/	Pass
		2480	1	1.036	/	Pass
		2402	1	2.064	/	Pass
2M	SISO	2440	1	2.069	/	Pass
		2480	1	2.067	/	Pass

2.1.2 6dB BW

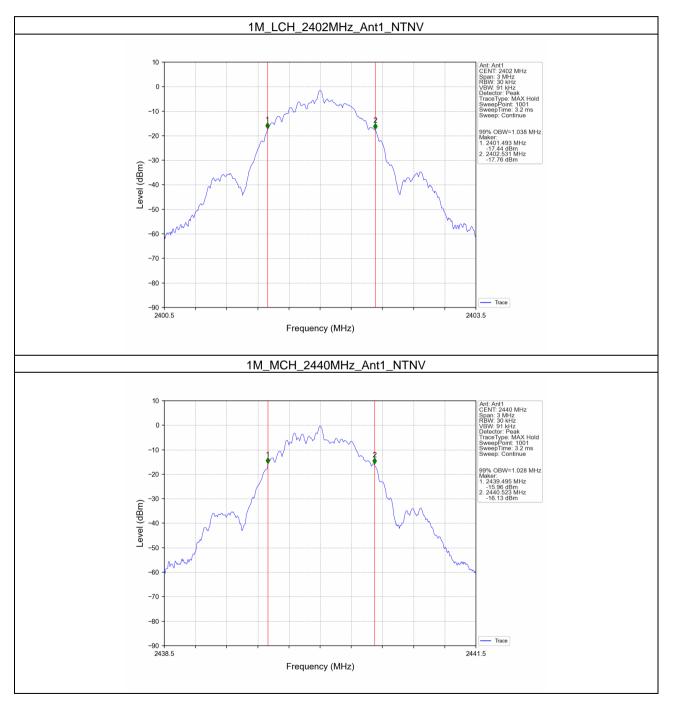
Mada	TX	Frequency		6dB Bandv) (a nali a t		
Mode	Туре	(MHz)	ANT	Result	Limit	Verdict	
		2402	1	0.658	>=0.5	Pass	
1M	SISO	2440	1	0.662	>=0.5	Pass	
		2480	1	0.653	>=0.5	Pass	
	SISO	2402	1	0.993	>=0.5	Pass	
2M		2440	1	1.136	>=0.5	Pass	
		2480	1	1.142	>=0.5	Pass	



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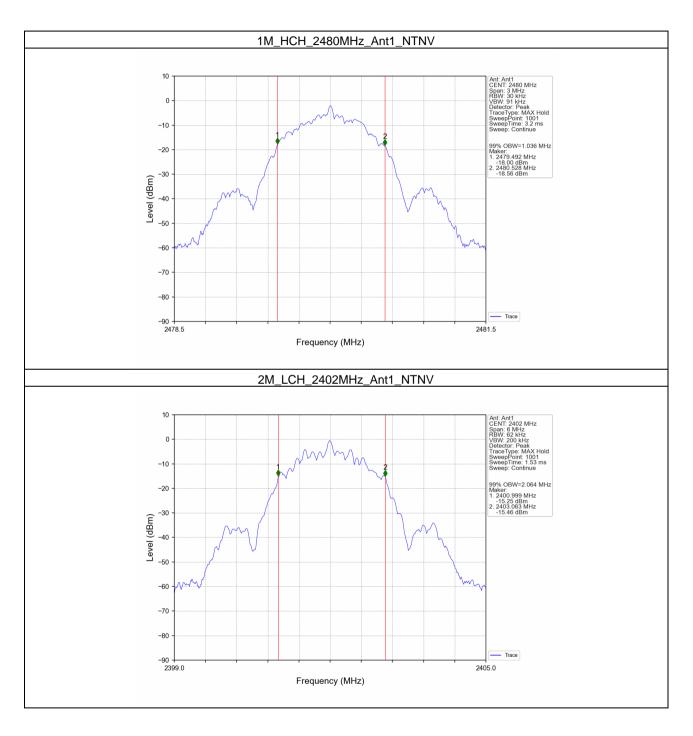
2.2 Test Graph

2.2.1 OBW



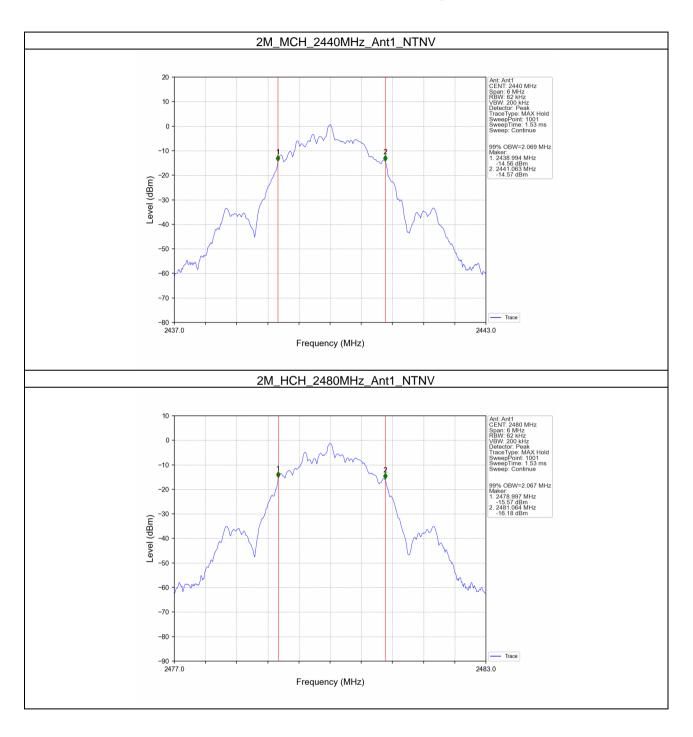


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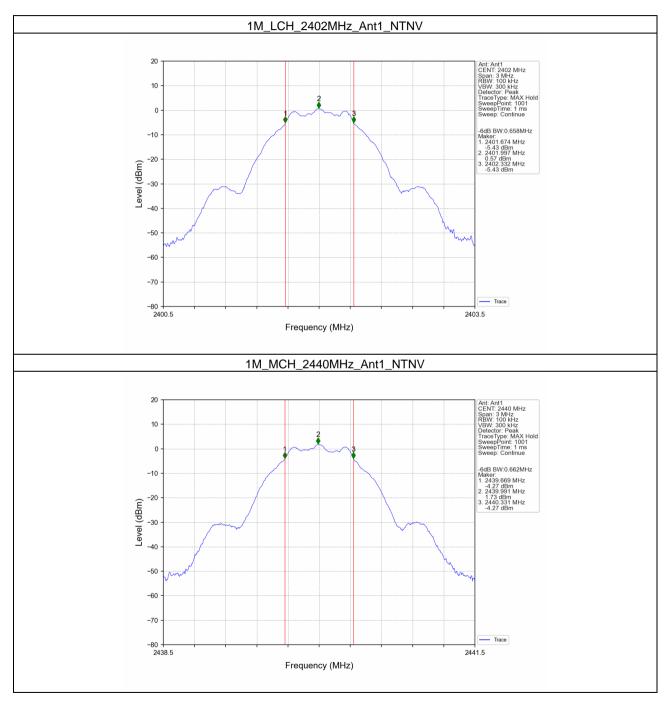
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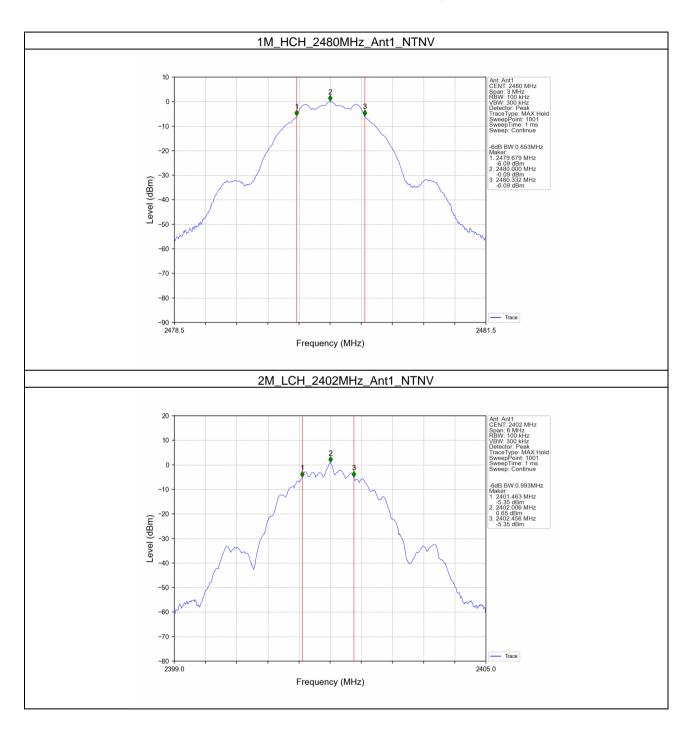
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2.2.2 6dB BW



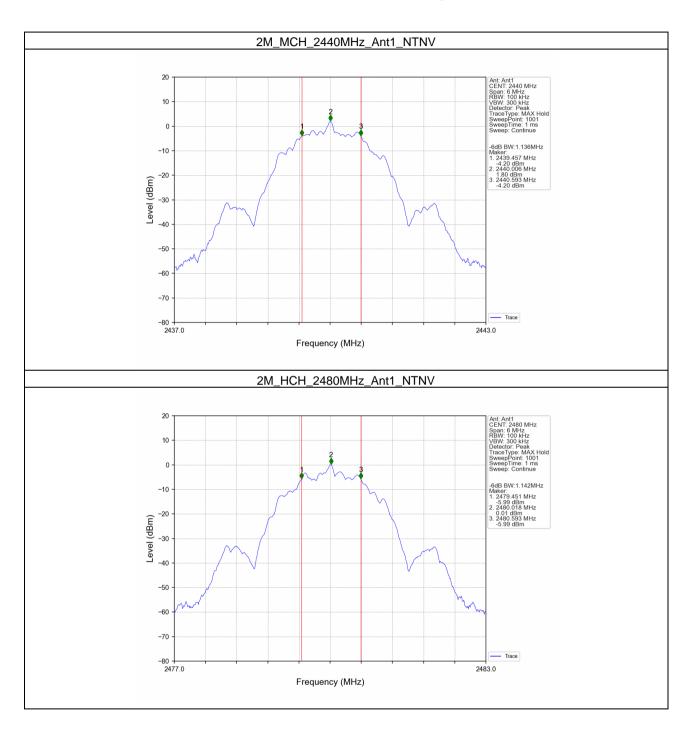


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3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

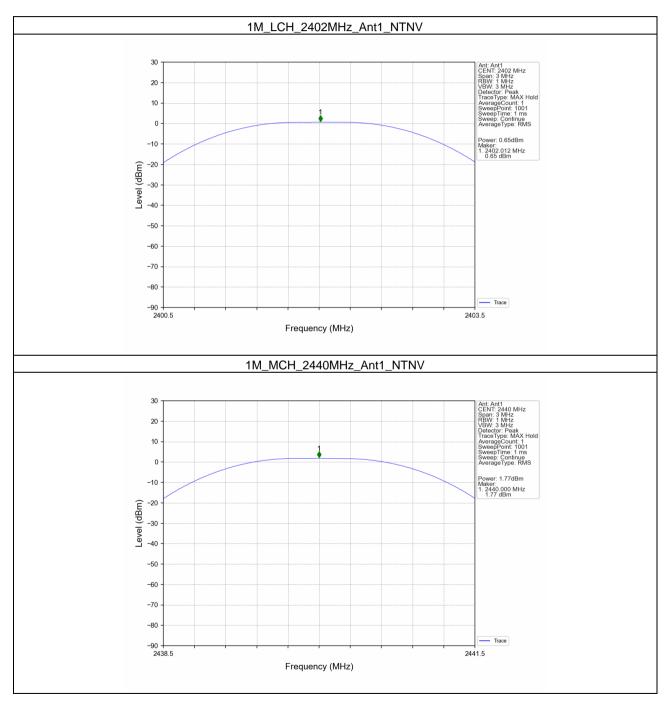
Mode TX Type		Frequency	Maximum Peak Conduc) (a wall a t	
		(MHz)	ANT1	Limit	Verdict
1M SISO	2402	0.65	<=30	Pass	
	2440	1.77	<=30	Pass	
		2480	0.00	<=30	Pass
2M SISO	2402	0.81	<=30	Pass	
	SISO	2440	2.02	<=30	Pass
		2480	0.28	<=30	Pass



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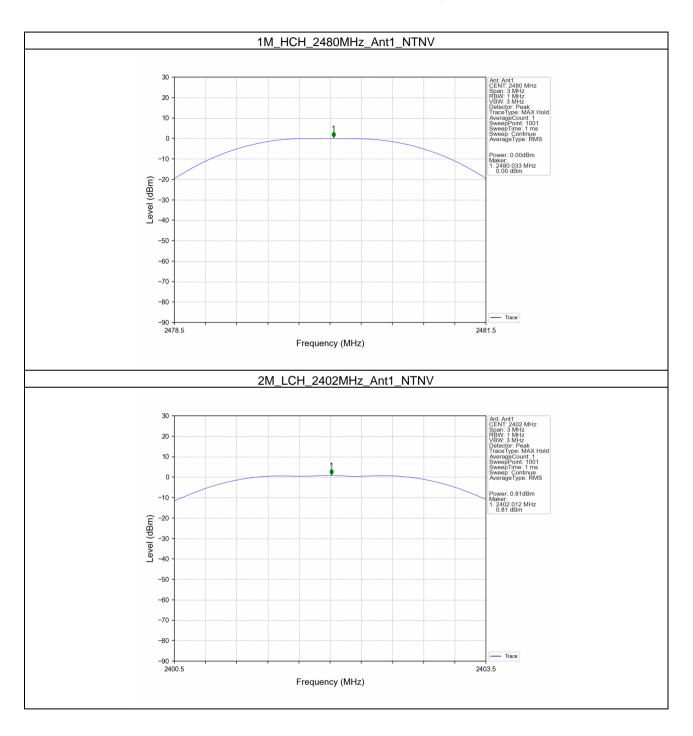
3.2 Test Graph

3.2.1 Power



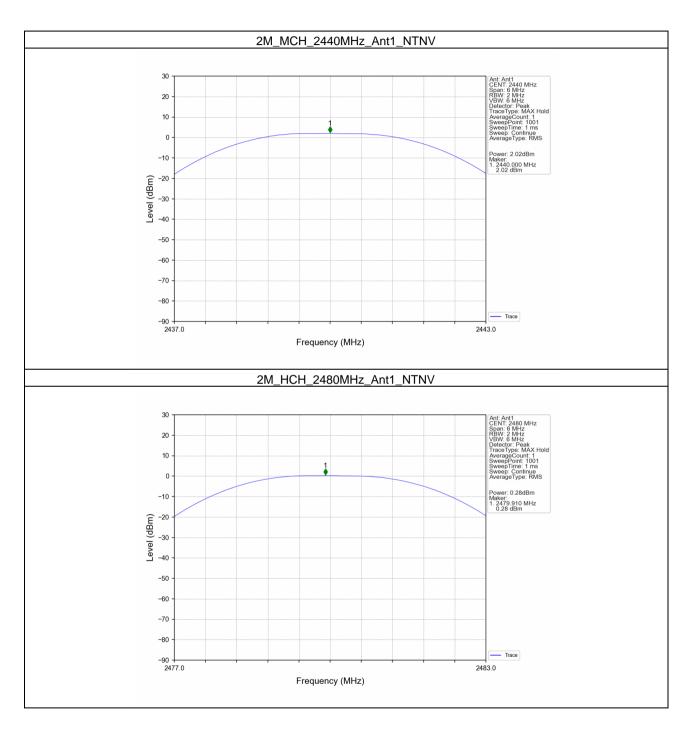


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4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

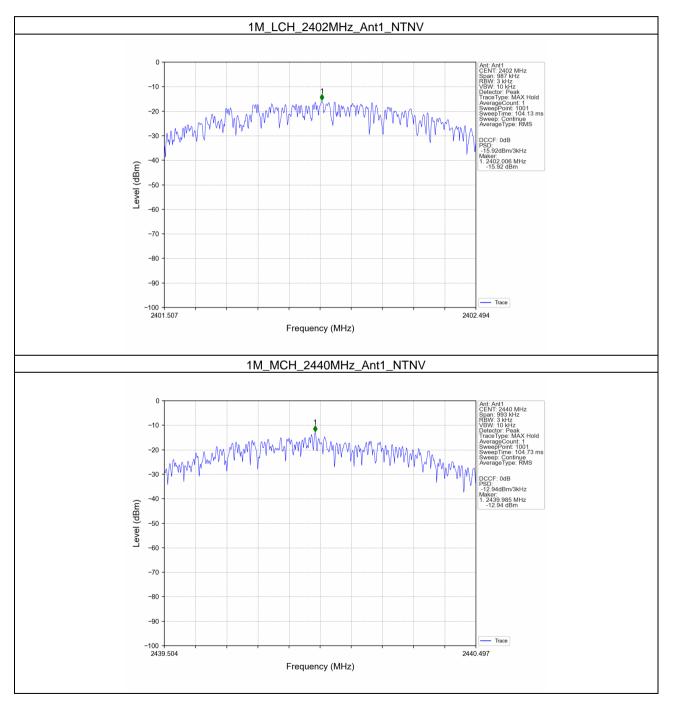
Mada	ТХ	Frequency	Maximum PS) (a sali a t	
Mode	Туре	(MHz)	ANT1	Limit	Verdict
1M SISO	2402	-15.92	<=8	Pass	
	SISO	2440	-12.94	<=8	Pass
		2480	-14.64	<=8	Pass
2M SISO	2402	-15.43	<=8	Pass	
	SISO	2440	-14.95	<=8	Pass
		2480	-17.56	<=8	Pass



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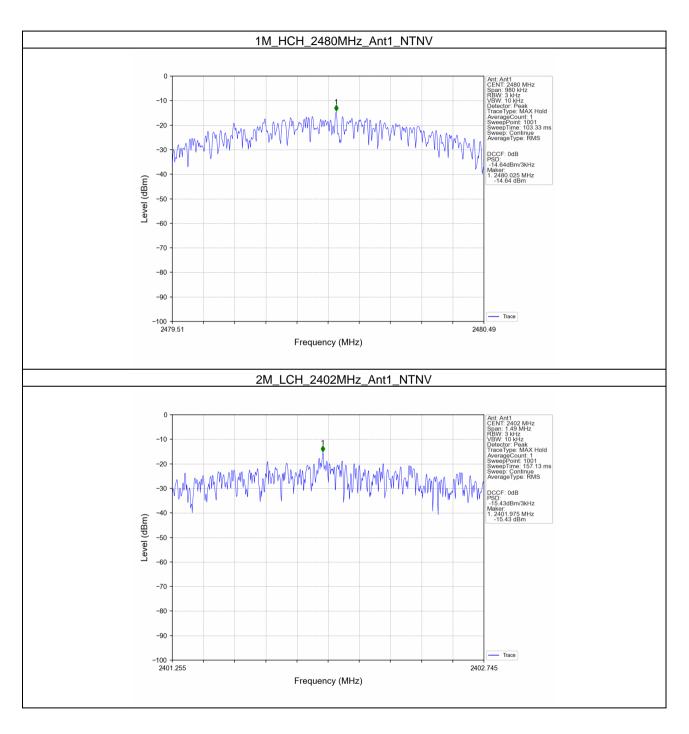
4.2 Test Graph

4.2.1 PSD



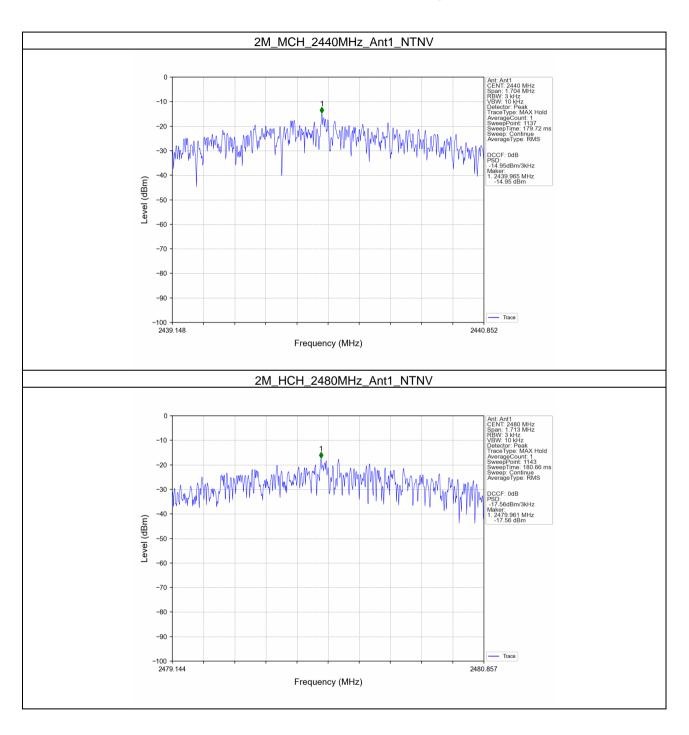


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5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	ТХ Туре	Frequency (MHz)	ANT	Level of Reference (dBm)
		2402	1	0.50
1M	SISO	2440	1	1.67
		2480	1	-0.10
		2402	1	0.57
2M	SISO	2440	1	1.79
		2480	1	-0.02
Note1: Refer to EC	C Part 15 247 (d) ar	d ANSI C63 10-2013 the	e channel contains th	ne maximum PSD level was used

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

5.1.2 CSE

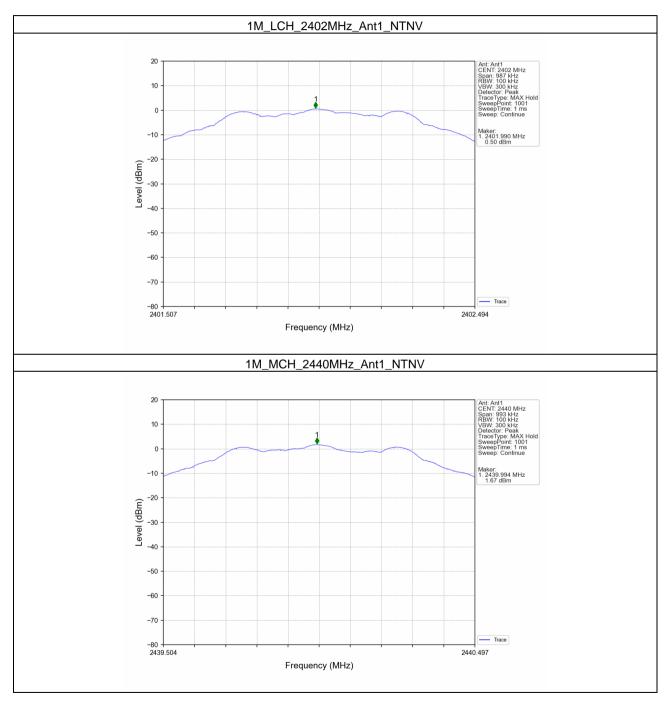
Mode	ТХ Туре	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
		2402	1	1.67	-18.33	Pass
1M	SISO	2440	1	1.67	-18.33	Pass
		2480	1	1.67	-18.33	Pass
		2402	1	1.79	-18.21	Pass
2M	SISO	2440	1	1.79	-18.21	Pass
		2480	1	1.79	-18.21	Pass
	to FCC Part f		SI C63.10-201	3, the channel contains the	maximum PSD	level was used



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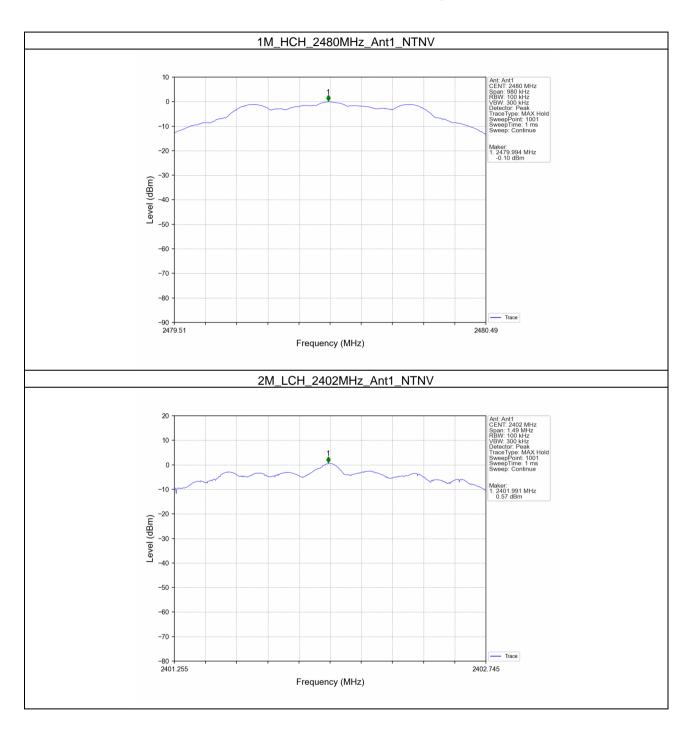
5.2 Test Graph

5.2.1 Ref



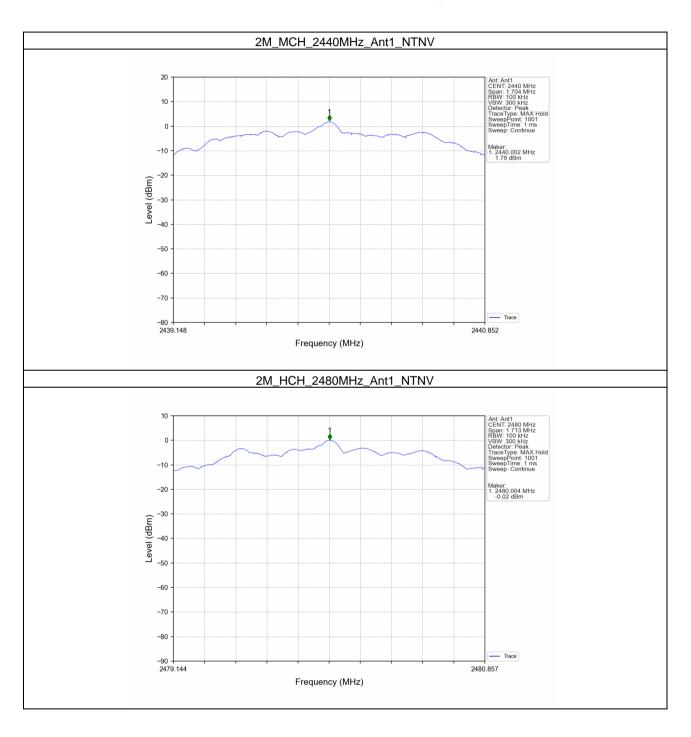


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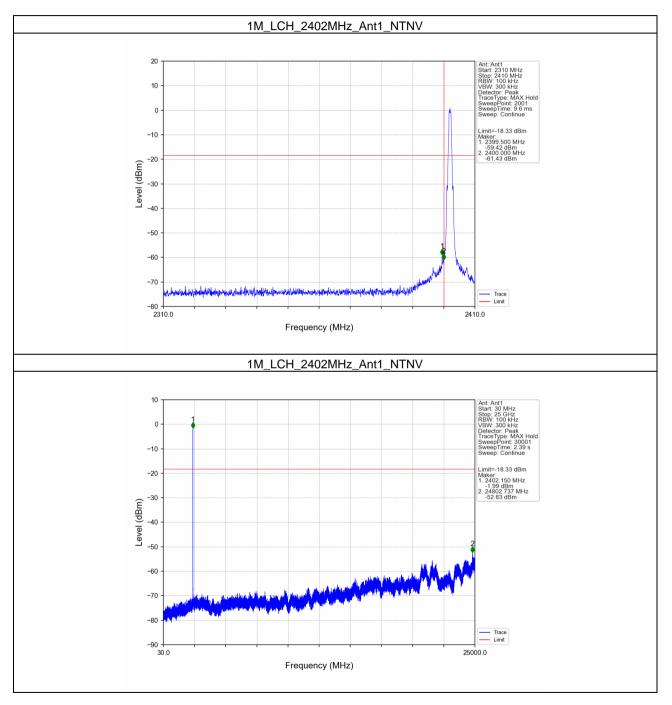
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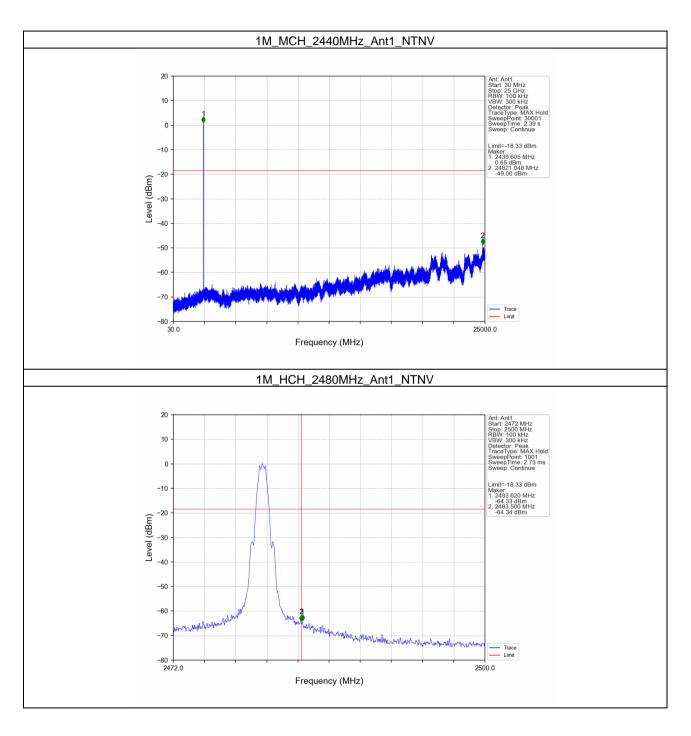
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5.2.2 CSE



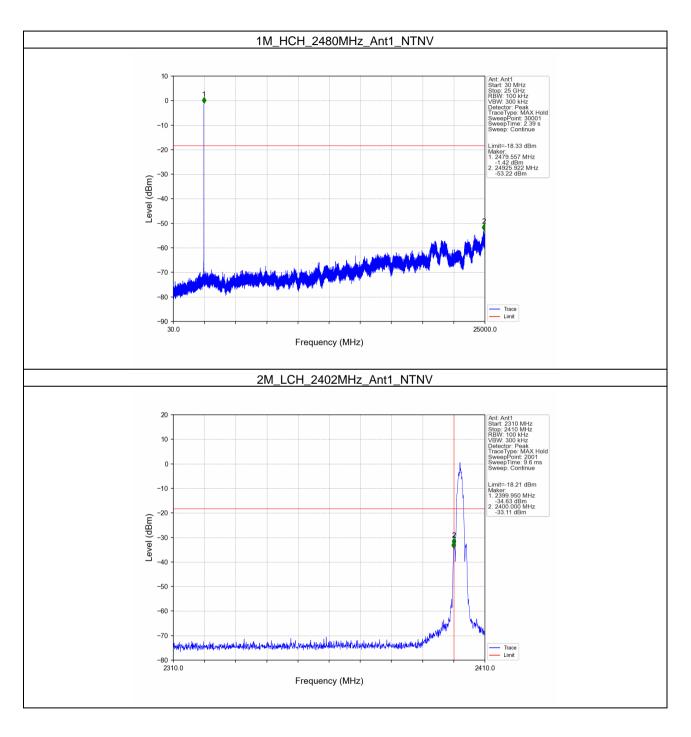


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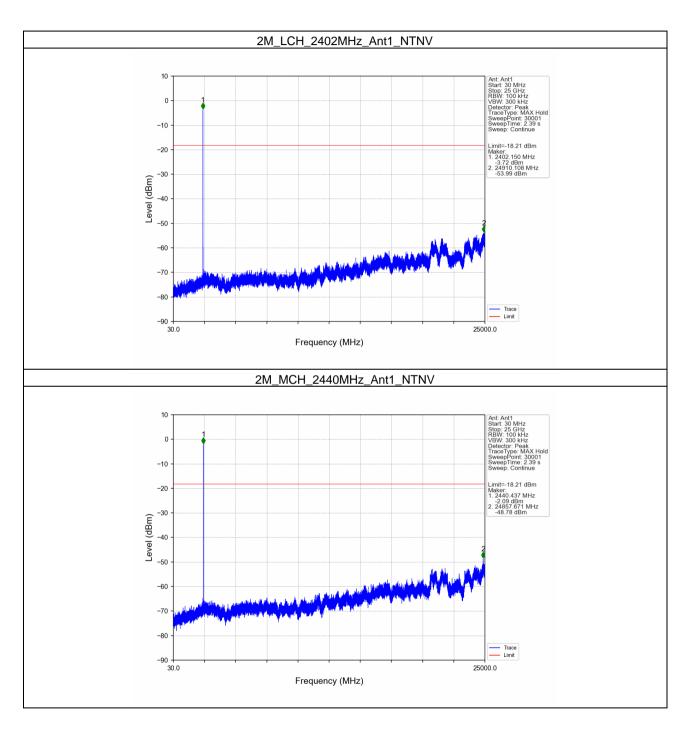


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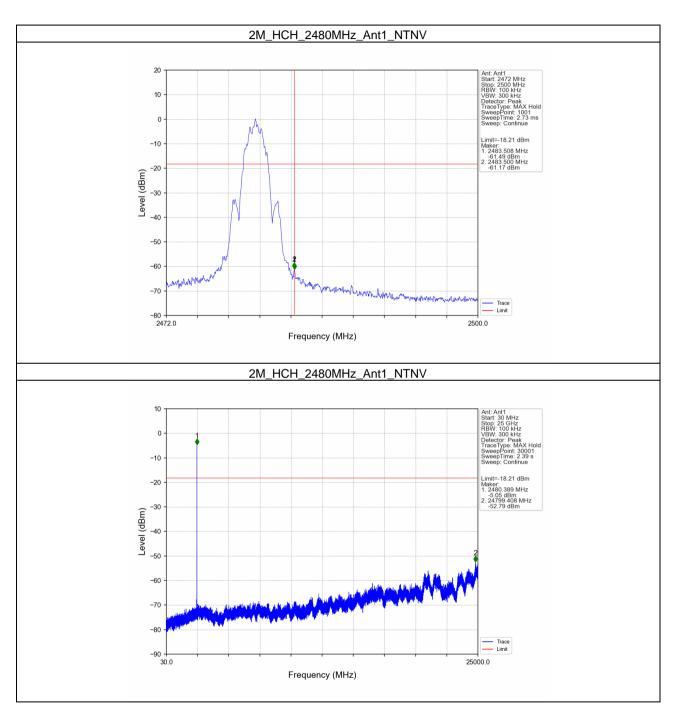


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- End of the Report -